S/179/60/000/03/006/039
E081/E441

Stresses in a Ponderable Half-Plane, Weakened by Two Circular
Non-Symmetrically Located Holes

problem is attacked by means of the complex Kolosov -
Muskhelishvili potentials $\varphi_1(z)$ and $\psi_1(z)$ and the
solution is found to depend on the quantities α_n and
β_n (Eq (4.2) and (4.7)). These quantities are given
in Table 1, in which the first line represents
calculations obtained by solving Eq (4.2) and the second
line represents calculations obtained from Eq (4.7).
The supplementary stresses at some important points for
$\theta = 0$, $\pi/4$ and $\pi/2$ are given by the formulae
immediately above Table 2, which itself gives the values
of the coefficients in these equations (h_1 and h_2
are given by Eq (2.2); Tables 1 and 2 assume that
$R_1 = 10 R_2$, $C = 13 R_2 e^{\theta i}$). There are 1 figure,
2 tables and 3 Soviet references.

ASSOCIATION: Institut mekhaniki AN SSSR (Institute of Mechanics, AS USSR)

SUBMITTED: January 20, 1960

Card 2/2

VC

KISLER, L.N. (Moskva)

Determining a stressed area in a ponderable semiplane with elliptic
and circular holes. Izv.AN SSSR.Otd.tekh.nauk.Mekh.i mashinostr.
no.2:159-163 Mr-Ap '61.   (MIRA 14:4)
                    (Strains and stresses)

KISLER, L. N., Cand. Phys-Math. Sci. (diss) "On Intensities in Weighable Semi-Plane, Weakened by Two Circular Openings, and Circular and Elliptical Openings." Rostov-on-Don, 1961, 7 pp (Rostov State Univ.) 175 copies (KL Supp 12-61, 251).

KISLER, L.N.; MATVIYENKO, V.V.; DOLGIKH, M.A.

Estimating the stability of leaching chambers of rectangular
cross section. Trudy VNIIST no.12:112-121 '62.   (MIRA 16:11)

RUPPENEYT, K.V.; KISLER, L.N.

Working out the engineering theory of rock pressure. Vop. gor. davl.
no.18:3-22 '63.   (MIRA 18:7)

KISLER, V.M. (Moskva)

On the problem pertaining to an explosion over the surface of
a liquid. Prikl.mat.i mekh. 24 no.3:496-503 My-Je'60.
(MIRA 13:10)

(Explosions) (Hydrodynamics)

KISLER, V. M., Cand. Phys-Math. Sci. (diss) "On the Problem of

Explosion Over the Surface of a Liquid." Moscow, 1961, 6 pp

(Moscow Hydrophysical Institute, Acad. of Sci. USSR)(KL Supp

12-61, 251).

KONSTANTINOV, B.P.; KISLEV, B.P.; SKREBTSOV, G.P.

Separation of radium from barium on a mercury cathode by electrolysis.
Radiokhimiia 2 no.1:50-56 '60.   (MIRA 14:5)
                              (Radium) (Barium)

TSLEV, V. I.

    Hoists for deep mines Moskva, Gos. nauch-no-tekhn. izd-vo lit-ry po chernoi i
tsvetnoi metallurgii, 1954. (Mic 55-3435)
Collation of the original, as determined from the film: 227 p.
Microfilm Slavic 372 AC

FISLOVA, N. I.

5864   Detskaya. kukhnya kniga dlya materey O prigotovlenii pishchi detyam.
         pod red. v.s. vayl'. (s izm. 1dop) chkalov, kn. ozd., 1954. 1685 20sm.
         30.000ekz. 2r. 55k. (55-930)   613.95; 613.22-641.562

    SO: Knizhnaya Letopis', vol. 1, 1955

$K/SLEVH, Z.N$

AUTHOR: Kisleva, Z. N. (Moscow)

TITLE: On the Propagation of Small Disturbances in a Plane Nozzle

ABSTRACT: A method of correcting the profile of the smoothing section
           in a plane supersonic nozzle is presented, starting with
           a given distribution of pressure along the axis of the
           diamond pattern of measuring points. The deviations of
           the Mach number from the design Mach number along the axis
           of the diamond are derived, starting from given deviations
           of the profile from the theoretical profile. In construct-
           ing a nozzle, there are in practice always deviations from
           the theoretical profile which cause the flow at the
           nozzle exit to become non-uniform. Apart from manufac-
           turing errors, the nozzle profile can also have errors
           due to approximations in computing the corrections
           required for the boundary layer. It is assumed that
           the flow in the nozzle is two-dimensional, irrotational
Card 1/2 and in a steady state condition. As a result of the

KISLEVSKIY, L.I. [Kyselevs'kyi, L.I.]

Mechanism underlying the outflow of matter from the anode and cathode of an arc of constant polarity. Ukr.fiz.zhur. 6 no.6:878-881 N-D '61.   (MIRA 16:5)

1. Institut fiziki AN Belorusskoy SSR, Minsk.
                              (Electric arc)

KISLEYKO, A., agronom

Machines have come to the sugar beet fields. Zemledelie 25 no. 10:57 O '63.   (MIRA 16:11)

1. Kolkhoz "Bol'shevik" Svislochskogo proizvodstvennogo uprav- leniya, Gomel'skoy oblasti.

KISLIAKOV, Sava, inzh.

Theory of symmetrical integral equations. Godisznik Inzh stroit inst 14 no.11:1-8 '62. [publ. '63]

KISLIAKOV, Sava P.

Nonlinear dynamic stability of rectangular plates with initial ir-
regularity. Godishnik Inzh stroit inst 15 no.1:11-25 '62. [publ.'63.]

KISLIAKOV, Sava, inzh.

Stability of thin prismatic films. Godishnik Inzh stroit inst
13 no.1:57-71 '61.

KISLIAKOV, Sava D., inzh., k.t.n.

Dynamic stability of cylindrical shells with or without
initial bending. Godishnik Inzh stroit inst 16 no.1:
123-136 '64.

Stability of rectangular plates with initial bending in a gas
flow at high supersonic speeds. Ibid.:165-177

KISLIBSYNA-L.P.

Mechanism of the exchange of adsorbed hydrogen ions by aluminium ions in soils. V. A. Chernov and L. P. Kislibsyna (*Pochvovedenie*, 1955, No. 3, 7—16).—Krasnozem and sod-podsolised soils were treated alternately with 0·05N-HCl and N-KCl. The KCl extracts of acid-treated soils all contained H' and Al'" but the ratio of these ions depended on the soil type, the horizon within a given profile and on the interval between the acid and the saline extractions, replacement of H' by Al'" on the soil particles increasing with the interval. Repeated alternate treatments did not alter the exchange capacity of the two upper horizons of the podsols but increased the capacity of the krasnozem, probably by extracting basic forms of the sesqui-oxides.   SOILS & FERT. (A. G. P.).

KISLICHENKO, Yu.V. [Kyslychenko, IU.V.] arkhitektor

The third subway. Znan. ta pratsia no. 12:6-7 D '60. (MIRA 14:4)

1. Kiievmetrobud.

(Kiev—Subways)

KISLIK, D. A.

DECEASED

25652.   KISLIK, D. A. O sluchayakh nepravil'nogo konstruirvoaniya registriruyushchego mekhanizma v mashinakh po ispytaniyu materialov s mayatnikovbm siloiameriem. Izvestiya Rost. in-ta. inzhenerov sh-d. transporta, vyp 14, 1949 s. 97-100.

SO: Letopis' Zhurnal' Nykh Statey, Vol. 34, Moskva, 1949.

KISLIK, D.A., kand.tekhn.nauk, dotsent [deceased]; KARMAZIN, A.I., kand. tekhn.nauk, dotsent

Laboratory equipment for studying the torsion of thin-walled rods with an open profile. Izv.vys.ucheb.zav.; mashinostr. no.6:129-132 '62.
(MIRA 15:11)

1. Rostovskiy institut inzhenerov zheleznodorozhnogo transporta. (Testing machines)

KISLIK, D.A., kand. tekhn. nauk, dotsent [deceased]

Stresses and offsets in the elements of the superstructure.
Sbor. nauch. trud. RIIZHT no.40:5-61 '63.

(MIRA 18:3)

KISLIK, G.I.

USSR.

Combined hydro-dehydropolymerization with boron fluoride on platinum and chromium catalysts. Ya. M. Paushkin and G. I. Kislik. *Doklady Akad. Nauk S.S.S.R.* 90, 557-9(1953).—Hydro-dehydropolymerization was studied on Pt and Cr catalysts covered by a layer of BF_3, the latter acting as a polymerization catalyst. The reactions were carried on with isoamylene and isobutylene at different temps. and with different catalysts (Pt-carbon with and without BF_3, $C + BF_3$, $BF_3 + Cr_2O_3.Al_2O_3$, and $Cr_2O_3.Al_2O_3$). A study of the phys. consts. of the polymers formed shows that increase in temp. decreases the degree of polymerization and decreases the mol. wt. of the polymers. The Pt- carbon catalyst did not yield any polymerization and the conversion of the olefin on $C + BF_3$ was only 65%, as compared to 90% for Pt-carbon $+ BF_3$. The polymers formed with the latter catalyst contain aromatic compds. Polymers obtained with catalysts contg. BF_3 had decreased degree of unsatn. as the temp. was increased. There is a combined polymerization, cyclization, and hydrogenation-reaction at 400° in the presence of platinized carbon and BF_3.

J. Roviar Leach

KISLIK, G. N.

1458. Combined hydro-dehydropolymerization by boron fluor-
ide or platinum and chromium mixture

compared with results using Pt-charcoal
indicate that Pt charcoal + HCl as

genation.

V. B.

KISLIK, M.D

PHASE I BOOK EXPLOITATION   SOV/4281

Akademiya nauk SSSR

Iskusstvennyye sputniki zemli, vyp. 4 (Artificial Earth Satellites, No. 4)
Moscow, 1960. 205 p. Errata slip inserted. 6,500 copies printed.

Resp. Ed.: L.V. Kurnosova; Ed. of Publishing House: M.I. Fradkin; Tech. Ed.:
T.P. Polenova.

PURPOSE: This collection of articles is intended to disseminate data collected
in investigations performed by means of artificial earth satellites.

COVERAGE: The collection consists of 15 articles dealing with scientific data on
Soviet artificial earth satellites (AES) and cosmic rockets. The topics dis-
cussed include measurements of the density of the upper atmosphere, motion of
AES, measurements of micrometeorites and meteoric matter, magnetometric measure-
ments of cosmic rays, electrical potential, and spectrum of positive ions. The
collection is part of a series published regularly. References follow each
article.

Card 1/6

Artificial Earth Satellites, No. 4

SOV/4281

TABLE OF CONTENTS:

Card 2/6

KISLIK, M.D.

Analysis of the integrals of motion equations for an artificial
satellite in the normal gravitational field of the earth. Isk.
sput.Zem. no.13:23-52 '62.

(Artificial satellites—Orbits)   (MIRA 15:7)

KOTEL'NIKOV, V.A., akademik; DUBROVIN, V.M.; KISLIK, M.D.; KORENBERG, Ye.B.;
    MINASHIN, V.P.; MOROZOV, V.A.; NIKITSKIY, N.I.; PETROV, G.M.;
    RZHIGA, O.N.; SHAKHOVSKOY, A.M.

Radar observation of Venus. Dokl. AN SSSR 145 no.5:1035-1038
'62.

(MIRA 15:8)

1. Institut radiotekhniki i elektroniki AN SSSR.
        (Radio astronomy)   (Venus (Planet))

KOTEL'NIKOV, V. A., akademik; GUS'KOV, G. Ya.; DUBROVIN, V. M.;
    DUBINSKIY, B. A.; KISLIK, M. D.; KORENBERG, Ye. B.; MINASHIN,
    V. P.; MOROZOV, V. A.; NIKITSKIY, N. I.; PETROV, G. M.;
    PODOPRIGORA, G. A.; RZHIGA, O. N.; FRANTSESSON, A. V.;
    SHAKHOVSKOY, A. M.

Radar tracking of the planet Mercury. Dokl. AN SSSR 147 no.6:
1320-1323 D '62.
                                         (MIRA 16:1)

1. Institut radiotekhniki i elektroniki AN SSSR.

        (Mercury(Planet))   (Radar in astronomy)

L 15707-63   EWT(1)/FBD/FCC(w)/BDS/ES(v)/EEC-2   AFFTC/ESD-3   P1-4/Pe-4
ACCESSION NR: AT3007054   S/2560/63/000/017/0101/0106   GW/PT-2

AUTHOR: Kotel'nikov, V. A.; Dubinskiy, B. A.; Kislik, M. D.; Tsvetkov, D. M.

TITLE: Precise determination of the astronomical unit based on radar returns
from Venus in 1961

SOURCE: AN SSSR. Iskusst. sputniki zemli, no. 17, 1963, 101-106

TOPIC TAGS: astronomical unit, Venus, Venus probe, Venus radar echo, Venus ra-
dar signal, Venus radar return

ABSTRACT: A revised value for the astronomical unit (A) is arrived at from
calculations on the basis of radar returns from Venus in April 1961. The radar
measurements were conducted by the Institut radiotekhniki i elektroniki, AN SSSR
(Institute of Radio Engineering and Electronics, Academy of Sciences SSSR) and
yielded a more accurate value of A than previously obtained from Venus radar
echoes in 1958 and 1959 because of the higher transmitting power [not specified]
that was used. The measurement method is also superior to that using orbital
data from an artificial satellite such as Pioneer V, since the ephemeris of the
satellite is not known as accurately as that of Venus. Values of A calculated
on the basis of signal round-trip time were found to be more accurate than those

Card 1/2

L 15707-63

ACCESSION NR: AT3007034

8/2560/63/000/017/0101/0106

calculated from Doppler-shift data. The mean value for A was determined to be 149,599,300 km, based on signal return times for 89 measurement periods between 18 and 26 April 1961. This figure includes an rms error of ±330 km due to the uncertainty in measuring elapsed signal time. Additional systematic errors, which include the uncertainties of Venus' radius, of the speed of light in a vacuum, and of the actual location of the signal reflecting surface on Venus, and the inherent delay in the receiving system, must also be considered. This results in an overall calculated rms error of ±2000 km. Comparison of the Soviet figure to three other values of A reported in the U. S. and Great Britain based on Venus radar echoes in 1961 show that all four nominal values of A lie within 2300 km of each other. Orig. art. has: 3 figures and 3 formulas.

ASSOCIATION: none

SUBMITTED: 23Aug62

DATE ACQ: 11Oct63

ENCL: 00

SUB CODE: AS

NO REF SOV: 003

OTHER: 005

Card 2/2

L 12933-63   EWT(1)/FBD/FCC(w)/BDS/EEC-2/EED-2/ES(v)   AFFTC/AFMDC/APGC/ASD/
ESD-3   Pe-4/Pi-4/Pj-4/Pk-4/Pl-4/Pm-4   PT-2/GW/WR   117

ACCESSION NR: AP3003845   s/0020/63/151/003/0532/0535   102

AUTHOR: Kotel'nikov, V. A. (Academician); Dubrovin, V. M.; Dubinskiy, B. A.;
Kislik, M. D.; Kuznetsov, B. I.; Lishin, I. V.; Morozov, V. A.; Petrov, G. M.;
Rzhiga, O. N.; Syttsko, G. A.; Shakhovskoy, A. M.

TITLE: Radar observations of Venus in the Soviet Union in 1962

TOPIC TAGS: radar observation, Venus observation, average reflected signal spec-
trum, reflection coefficient, broadband component, frequency-modulated reflected
signal, reflected signal envelope, noise envelope

ABSTRACT: From 20 October to 21 December 1962, radar observations of Venus were
made, each of a duration of 4.5 to 7 min. The radar employed was the same used
in 1961 observations but with its sensitivity improved by a factor of 6 by means
of a paramagnetic ruby amplifier placed at the receiver input and through an in-
crease in transmitter power. In order to eliminate the average noise level in
the received signal, the frequency of the transmitted signal was shifted 62.5 cps
every 4.096 sec. The frequency spectrum of the reflected signals was recorded
on magnetic tape and investigated by means of a 20-channel analyzer. The average

Card 1/63

L 12933-63
ACCESSION NR: AP3003845

spectrum of reflected signals plotted on the basis of the sum of measurements
at both frequencies radiated by the transmitter is shown in Fig. 1a of Enclosure.
The spectrum was analyzed by filters with a passband of 1 cps. The frequency
values of analyzer filter tunings f in relation to the frequency of central
filter f_0 are plotted along the abscissa, while value p, representing the ratio
of reflected signal power in each filter band to the signal power in the central
filter band, is plotted along the ordinate. Dotted lines show the RMS value of
measurement errors caused by noise. Except for the central filter, which yields
a higher signal level, the reflected signal spectrum may be approximated by the
exponential function

$$p = 0.37 \exp{(-0.42|f-f_0|)}.$$

The reflection coefficient of Venus measured on the basis of reflected signal
energy within 20 cps varied during the two-month period between 12 and 18%. In
the 1-cps band reflected energy was lower than total energy by a factor of 2.5
to 3. The spectrum of the broadband component of the reflected signal observed
previously was also observed. Here the transmitted signal consisted of constant
periodic transmissions whose frequencies differed from each other by 2000 cps and
whose duration was 4.096 sec. The analyzer filter passband was 100 cps. The
measurements showed a strong probability of the presence of the broadband component

Card 2/63

L 12933-63

ACCESSION NR: AP3003845

14

in the 300-cps band. The average spectrum of frequency-modulated reflected signals which was analyzed by filters with passbands of 1 and 4 cps is shown in Fig. 1b. The same quantities as in Fig. 1a are plotted along the coordinate axes, and range axis ΔR is indicated under the assumption that the spectrum maximum corresponds to reflection at a point situated at the shortest distance from Earth in the center of the visible disk of Venus. The data of Fig. 1b may be approximated by the hyperbola

$$P = 0.625 \, (f - f_0 + 0.625)^{-1}.$$

Fig. 2a shows the diagram of the envelope of the reflected signal obtained on 24 November 1962 during a 4.5-min study of the unmodulated carrier. The receiving channel passband was 6 cps before the linear detector, and the integrating circuit time constant was 6 sec after it. For comparison, Fig. 2b shows the noise envelope diagram for an analogous channel shifted in frequency by 62.5 cps containing no signal. "The authors thank the following persons for their assistance: L. V. Avraksin, R. S. Bondarenko, V. O. Voytov, M. M. Dedlovskiy, N. M. Dmitriyev, V. S. Dovgello, V. I. Krivda, V. M. Makhorin, G. A. Podoprigora, N. M. Sinodkin, G. I. Slobodenyuk, Z. G. Trunova, A. V. Frantsesson, and D. M. Tsvetkov."
Orig. art. has: 4 figures and 2 formulas.

Card 3/63

Inst. of Radio Engineering & Electronics

L 14255-63   EWT(1)/FBD/FCC(w)/BDS/EEC-2/EED-2/ES(v)   AFFTC/AFGC/ASD/
ESD-3   Pe-4/Pi-4/Pj-4/Pk-4/Pl-4/Pm-4   PT-2/WR

ACCESSION NR: AP3004417   S/0020/63/151/004/0811/0814

AUTHOR: Kotel'nikov, V. A.; Dubrovin, V. M.; Dubinskiy, B. A.; Kislik, M. D.;
Kuznetsov, B. I.; Petrov, G. M.; Rabotyagov, A. P.; Rzhiga, O. N.; Shakhovskoy,
A. M.

TITLE: Radar observations of the planet Mars in the Soviet Union

SOURCE: AN SSSR. Doklady, v. 151, no. 4, 1963, 811-814

TOPIC TAGS: Mars radar observations, Mars reflected-signal spectrum, Mars
Doppler-frequency shift, Mars rotation time, Mars reflection coefficient

ABSTRACT: Radar observations of Mars' northern hemisphere from $14°30'$ to $14°$
latitude and from 310 to 360° and from 0 to 140° longitude were carried out in
the Soviet Union on 6—10 February 1963 at a frequency of approximately 700 Mc.
The polarization of radiated waves was circular, with antenna polarization
changing to linear during reception. The energy of the signal incident on the
visible surface of Mars was 1.2 w. Both transmission and reception lasted
approximately 11 minutes. The signal had the shape of alternate rectangular
transmissions and intervals of a duration of 4.096 sec each, at two frequencies

Card 1/2

L 14255-63

ACCESSION NR: AP3004417

/0

differing by 62.5 cps. The signals were recorded on a magnetic tape together
with a 2000-cps oscillation, which served as a scale. Receiver sensitivity
was calibrated before and after operation on the basis of Cassiopeia-A dis-
crete-source radiation. The correction for frequency shift due to the Doppler
effect was regulated by an electronic digital frequency meter. In all, 99
observations were made, and the signal reflected from Mars was reliably de-
tected on the nights of February 7—8 (28 observations) and February 8—9
(20 observations). The results of spectral analysis of these 48 observations,
carried out with 4-cps filters and a storage time of 8.5 hr, are shown in Fig. 1
of the Enclosure. In the reflected signal spectrum, there is a narrowband com-
ponent whose energy exceeded by 4 times the RMS measurement error caused by
noise. The average reflection coefficient, determined as the ratio of the
reflected-signal energy to received-signal energy under the assumption that
Mars was an even, ideally conductive sphere, was found to be 7%. "The authors
thank L. V. Apraksin, V. O. Voytov, M. M. Dadlovskiy, G. A. Zhurkina, A. M.
Lukin, M. M. Sinodkin, B. A. Stepanov, A. V. Frantsesson, D. M. Tsvetkov, and
I. A. Sharabarin for their assistance." Orig. art. has: 3 figures, 1 table,
and 1 formula.

Association: Inst. of Radio Engineering and Electronics

Card 2/K2

KISLIK, M.D.   (Moscow)

"A new definition of the spheres of influence of planets"

report presented at the 2nd All-Union Congress on Theoretical
and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

KOTEL'NIKOV, V.A., akademik; APRAKSIN, L.V.; DUBROVIN, V.M.; KISLIK,
    M.D.; KUZNETSOV, B.I.; PETROV, G.M.; RZHIGA, O.N.; FRANTSESSON,
    A.V.; SHAKHOVSKOY, A.M.

Radar contact with Jupiter. Dokl. AN SSSR 155 no. 5:1037-1038
Ap '64.   (MIRA 17:5)

1. Institut radiotekhniki i elektroniki AN SSSR.

ACCESSION NR: AP4034534   S/0020/64/155/005/1037/1038

AUTHOR: Kotel'nikov, V. A. (Academician); Apraksin, L. V.; Dubrovin, V. M.;
Kislik, M. D.; Kuznetsov, B. I.; Petrov, G. M.; Rzhiga, O. N.; Frantsesson,
A. V.; Shakhovskoy, A. M.

TITLE: Radar ranging of the Planet Jupiter

TOPIC TAGS: Jupiter radar ranging, Jupiter reflection coefficient, radio astronomy,
Jupiter, Doppler effect

ABSTRACT: The radar ranging of Jupiter was undertaken in order to investigate
the propagation of radiowaves over long distances, and for the determination of
reflecting properties of Jupiter's surface. The power received by the planet's
surface was 13 w.   The time for double passage of the signal was 1 hr, 6 sec,
and the frequency was about 700 mc. Two consecutive signals differed by 62.5
cycles. The duration of the signals and the pauses was about 4 sec. The Doppler
effect caused by the relative motion and rotation of Earth was compensated by an
arrangement which linearly changed the heterodyne of the sender.   The noise was

Card 1/2

L 21758-65   EWT(1)/EWP(m)/FS(v)-3/EWG(v)/EEC(t)/T-2/   Po-4/Pe-5/Pq-4/Pg-4/Pae-2
AFWL/SSD(b)/SSD(c)/SSD/AFMD(c)/AFETR/APGC(f)/ESD(dp)/ESD(si)/ESD(t)   GW
ACCESSION NR: AP5000167   S/0293/64/002/006/0853/0858

AUTHOR: Kislik, M.D.

TITLE: Spheres of influence of the major planets and the moon

SOURCE: Kosmicheskiye Issledovaniya, v. 2, no. 6, 1964, 853-858

TOPIC TAGS: major planet, moon, astrophysics, planetary sphere of influence, space-
craft trajectory, planetary graviation

ABSTRACT: The concept of the sphere of action of a small body relative to a large body,
such as a planet relative to the sun, has been described by Subbotin (Kurs nebesnoy
mekhaniki, vol. 2, ONTI, 1937). The radii of the spheres of action of the major planets
are given in Table 1 of the Enclosure. In this paper the author introduces the concept of
sphere of influence of a small body relative to a large one. It is shown that the use of
spheres of influence in place of spheres of action in approximate computations of the trajec-
tories of artificial celestial bodies leads to an increase in accuracy. Radii of the computed
spheres of influence are also shown in Table 1 of the Enclosure. The author describes fully
the method for determining spheres of influence. Comparison of the data on spheres of
action and influence shows that the extent of the spheres of influence of the planets is 2 or 3

Card   1/2

L 21758-65
ACCESSION NR: AP5000167

2

times greater than the spheres of action. In fact, this ratio is given by

$$\frac{r_{inf}}{r_{act}} = \frac{1.15}{\sqrt{m_2/m_1}}.$$

"The author wishes to thank B.A. Stepanov and V.T. Shamanskiy for making the neces-
sary computations." Orig. art. has: 26 formulas, 2 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 29Apr64   ENCL: 01   SUB CODE: AA

NO REF SOV: 004   OTHER: 000

Card   2/3

L 21753-65
ACCESSION NR: AP5000167   ENCLOSURE: 01

Table 1

Planet	r_{act}, million km	r_{inf}, million km
Mercury	0.11	0.36
Venus	0.62	1.70
Earth	0.93	2.50
Mars	0.58	1.80
Jupiter	48.2	88.0
Saturn	54.5	108.0
Uranus	51.8	116.0
Neptune	86.8	194.0
Moon	66,000 km	102,000 km

Card 3/3

L 60859-65   EEC-4/EWG(v)/EWT(1)/FBD   GW/WS-4

ACCESSION NR: AP5018071

UR/0020/65/163/001/0050/0053

AUTHOR: Kotel'nikov, V. A.; Aleksandrov, Yu. N.; Apraksin, L. V.;
Dubrovin, V. M.; Kislik, M. D.; Kuznetsov, B. I.; Petrov, G. M.; Pzhiga, O. N.;
Frantsesson, A. V.; Shakovskoy, A. M.

TITLE: Radar observations of Venus in the Soviet Union in 1964

SOURCE: AN SSSR. Doklady, v. 163, no. 1, 1965, 50-53

TOPIC TAGS: radio wave reflection, Venus radar observation, radio emission measure-
ment, radar observation, radio astronomy

ABSTRACT: Radar observations of Venus at 40 cm were conducted between 11 and 30
June 1964 by the Institute of Radio Engineering and Electronics of the Academy of
Sciences USSR. Frequency modulation and periodic linear frequency modulation of
radiated signals were employed. Paramagnetic and parametric amplifiers were used
at the receiver output. Signal analysis was performed by means of a 20-channel
analyzer with a filter bandwidth of 1.2 cps for each channel. The reflected
signal spectrum and measurements of the radial velocity of the motion of Venus
were determined on the basis of the Doppler shift of the signal spectrum of the
central frequency in relation to the radiation frequency. Frequency manipulation

Card 1/5

L 60859-65

ACCESSION NR: AP5018071   O

was effected with the radiating signal shaped as two alternating telegraphic pulse
packets at two carrier frequencies differing either by 62.5 or by 2000 cps . At each
frequency, pulse duration and the intervals between transmissions were 4.096 sec.
Radio wave reflection from the Venusian surface and measurements of the distance to
Venus were effected with linear frequency modulation. The results of the
measurements of the distance to Venus and of the radial velocity of its motion
are shown in Fig. 1 of Enclosure, with the vertical sections showing rms error
values, which till 23 June did not exceed 15 km for 5 min of observation (at a
deviation of 4 kc) and after 23 June did not exceed 2 km (at a deviation of 32 kc).
Measurement error for velocity did not exceed 2.5 cm/sec. Signal propagation time
was calculated with an accuracy of ±5 µsec, and Doppler frequency, with an
accuracy of ±0.05 cps. The total rms error value for the initial data was ±400 km.
The energy distribution of signals reflected from Venus depending on distance ΔR
is shown in Fig. 2. The following conclusions are drawn: 1) The width of the
Doppler spectrum of the reflected signal caused by the rotation of Venus does not
exceed 15 cps. 2) The Venusian reflection factor averages 19%. 3) The energy
in the central band of 1 cps is approximately one half of the energy of the whole
spectrum. 4) The orientation of the Venusian axis of rotation is practically
perpendicular to the orbital plane. Orig. art. has: 4 figures.   [DW]

Card 2/5

L 60859-65

ACCESSION NR: AP5018071

ASSOCIATION: Institut radiotekhniki i radioelektroniki Akademii nauk SSSR (In-
stitute of Radio Engineering and Electronics, Academy of Sciences SSSR)

SUBMITTED: 12Apr65   ENCL: 02   SUB CODE: DC ,AA

NO REF SOV: 003   OTHER: 000   ATD PRESS: 4063

Card   3/5

KOTEL'NIKOV, V.A., akademik; ALEKSANDROV, Yu.N.; APRAKSIN, L.V.; DUBROVIN,
V.M.; KISLIK, M.D.; KUZNETSOV, B.I.; PETROV, G.M.; RZHIGA, O.N.;
FRANTSESSON, A.V.; SHAKHOVSKOY, A.M.

Radar observations of Venus in the Soviet Union in 1964. Dokl.
AN SSSR 163 no.1:50-53 Jl '65.   (MIRA 18:7)

1. Institut radiotekhniki i elektroniki AN SSSR.

PETROV, A.; KISLIK, V., instruktor

Observe labor legislation. Zdrav.Belor. 5 no.12:41 D '59.
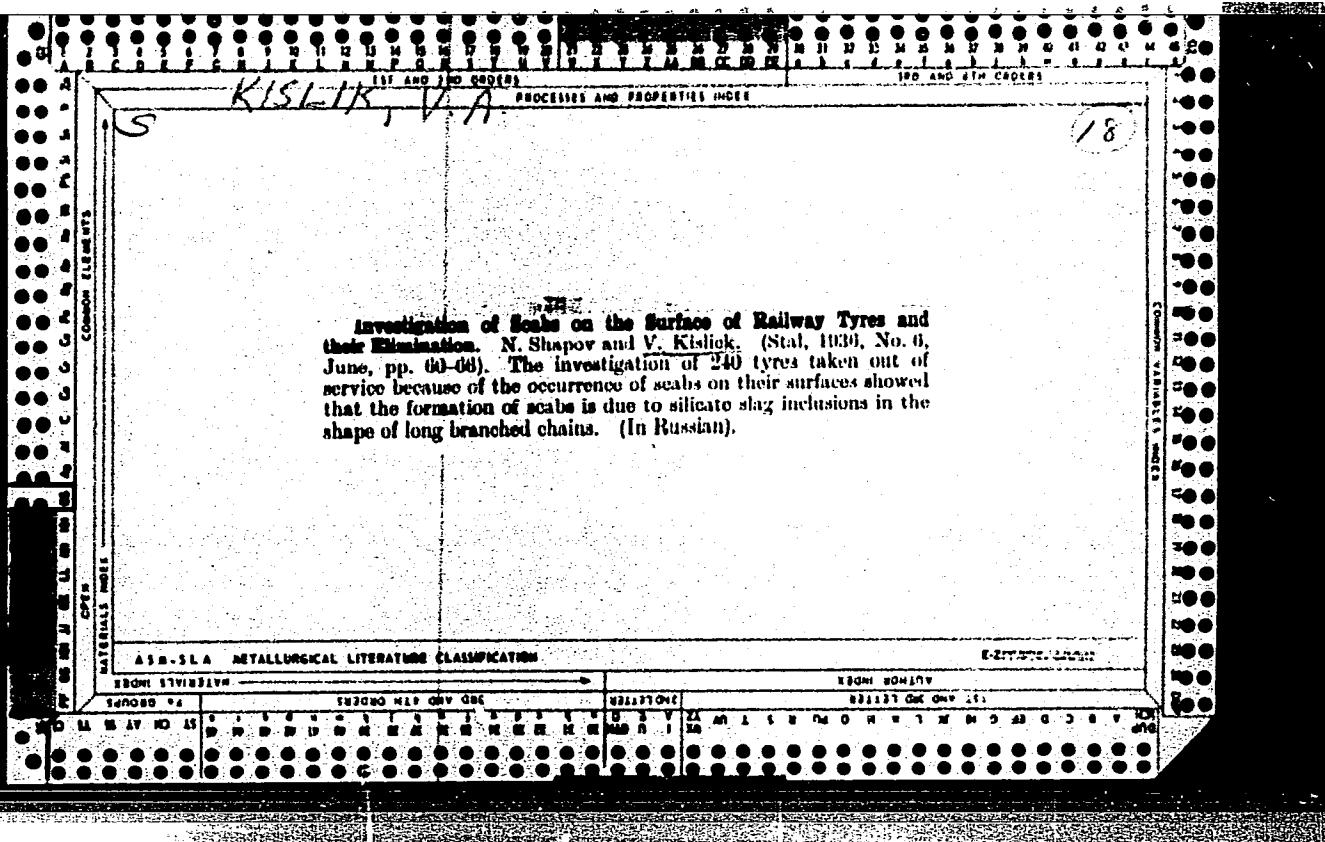
(MIRA 13:4)

1. Tekhnicheskiy inspektor Belsovprofa (for Petrov). 2. Minskiy oblastnoy profsoyuz medrabotnikov (for Kislik).
(WHITE RUSSIA--MEDICAL PERSONNEL)

KISLIK, V.A., doktor tekhn.nauk prof.

Review of "Seizure of metals" by A.P.Semenov. Vest.mash. 40
no.4:85-86 Ap '60.   (MIRA 13:6)
                (Metallography)   (Semenov, A.P.)

KISLIK, V. A.

S

18

PROCESSES AND PROPERTIES INDEX

Investigation of Scabs on the Surface of Railway Tyres and their Elimination. N. Shapov and V. Kislik. (Stal, 1930, No. 6, June, pp. 60-68). The investigation of 240 tyres taken out of service because of the occurrence of scabs on their surfaces showed that the formation of scabs is due to silicate slag inclusions in the shape of long branched chains. (In Russian).

ASM-SLA   METALLURGICAL LITERATURE CLASSIFICATION
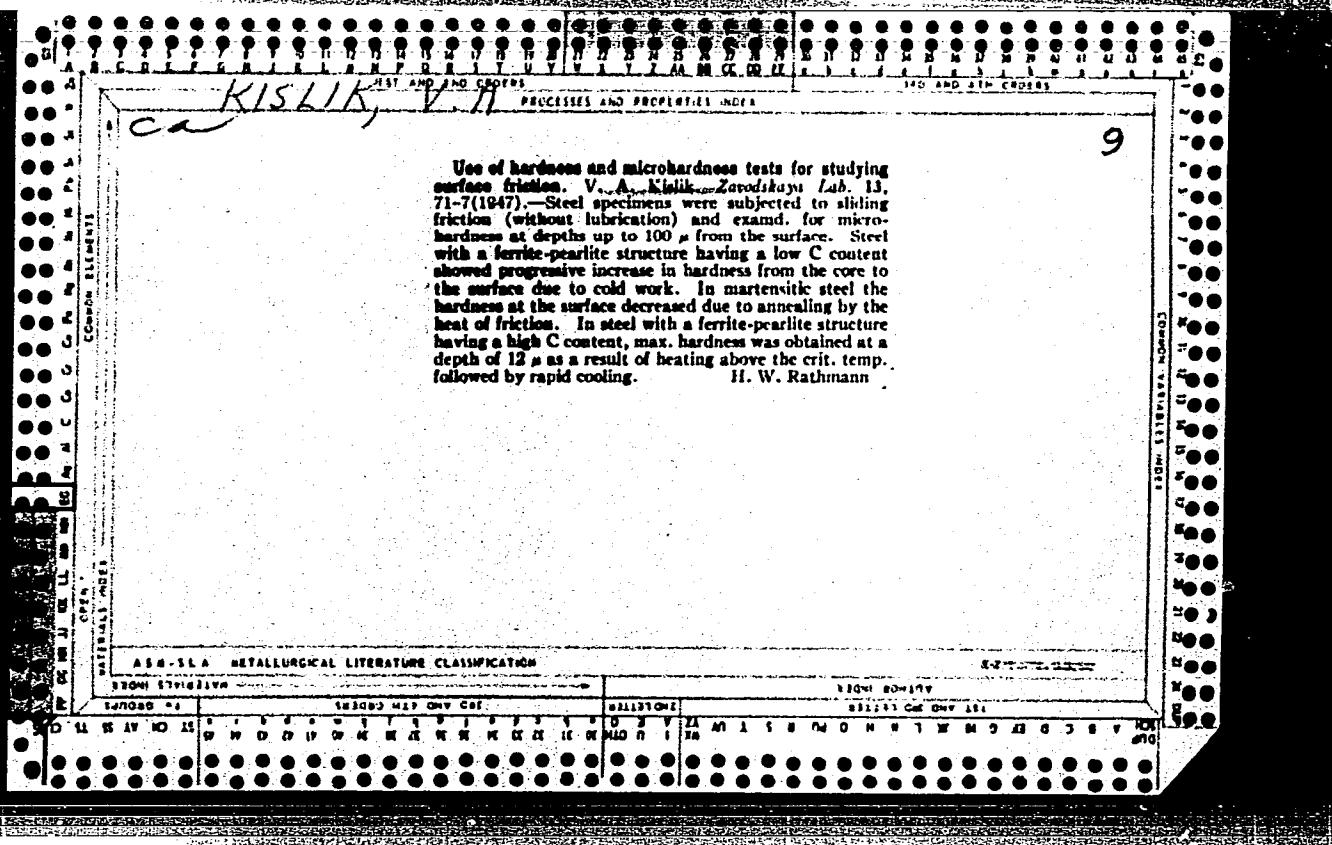
KISLIK, V. A.

"Increasing the Wear-Resistance of Cast Iron Parts of Locomotives,"
Moscow, 1944

KISLIK, V. A.

9

Use of hardness and microhardness tests for studying surface friction. V. A. Kislik. Zavodskaya Lab. 13, 71-7(1947).—Steel specimens were subjected to sliding friction (without lubrication) and examd. for microhardness at depths up to 100 μ from the surface. Steel with a ferrite-pearlite structure having a low C content showed progressive increase in hardness from the core to the surface due to cold work. In martensitic steel the hardness at the surface decreased due to annealing by the heat of friction. In steel with a ferrite-pearlite structure having a high C content, max. hardness was obtained at a depth of 12 μ as a result of heating above the crit. temp. followed by rapid cooling.   H. W. Rathmann

KISLIK,V.A.

KISLIK,V.A., kandidat tekhnicheskikh nauk; LARIN,T.V., kandidat tekhni-cheskikh nauk

Wear on locomotive wheelbands by shaped brake shoes. Tekh.zhel.
dor.7 no.6:26-27 Je'48.   (MLRA 8:11)
(Wheels)

KISLIK, V.A., DEVYATKIN, V.P.

Investigating the formation of abscesses on seamless rolled and band railroad wheels. Tren. i izn.mash. no.7:205-222 '53.   (MLRA 9:9)
(Wheels)

KISLIK, V.A.; SAMOYLENKO, A.M.

Method for testing abrasive wear of parts of boiler furnaces. Zav.
lab. 22 no.5:581-583 '56.
(MIRA 9:8)

1. Rostovskiy-na-Donu institut inzhenerov zheleznodorozhnogo
transporta.
(Abrasion) (Furnaces)

Kislik, V. N.

Distr: 4E2c

Method of Testing Steam Boiler and Furnace Steels, V. A. Kislik and V. N. Tkachev. (Zavodskaja Laboratorija, 1956, 22, (12), 1452-1480). [In Russian]. Four series of tests are described in a specially constructed boiler, in order to elucidate the corrosion processes and to discover means for their elimination. The chemical composition of the boiler water has been qualitatively changed for three series of experiments dealing with the corroding effects on the protective oxide film of the metals, and a fourth series of tests dealt with the friction effects of overlapping surfaces. Some definite conclusions emerged from the findings.—L. H.

KISLIK, V.A., professor (Rostov-na-Donu); KARMAZIN, A.I., kandidat tekhnicheskikh nauk (Rostov-na-Donu).

Selecting steel for pairs of car wheels. Zhel. dor. transp.
38 no.8:24-26 Ag '56.   (MIRA 9:10)

(Wheels)

KISLIK, V.A., prof.; KOVALEV, M.P., kand.tekhn.nauk; KRASNICHENKO, L.V.; DOMBROVSKIY, K.I., kand.tekhn.nauk.

London converence on lubrication and wear. Izv. vys. ucheb. zav.; mashinostr. no.1:147-151 '58.   (MIRA 11:6)
      (London--Lubrication and lubricants--Congresses)
      (London--Mechanical wear--Congresses)

KISLIK, V.A., doktor tekhn. nauk, prof.; KARMAZIN, A.I., kand. tekhn. nauk, dots.

Wear and damage to rolling surfaces of freight-car wheels. Trudy RIIZHT no.23:5-169 '58.
(MIRA 11:6)
(Car wheels) (Mechanical wear)

KISLIK, V.A., doktor tekhn. nauk, prof.; TKACHEV, V.N., inzh.

Local corrosion of metal in steam locomotive boilers. Trudy RIIZHT
no.23:170-216 '58.   (MIRA 11:6)
                    (Locomotive boilers—Corrosion)

KISLIK, V.A., doktor tekhn. nauk, prof.; SAMOYLENKO, A.M., inzh.

Wear of parts of steam locomotive fireboxes caused by flow of
coal and ash particles. Trudy RIIZHT no.23:217-246 '58.
        (Locomotive--Fireboxes)   (Mechanical wear)   (MIRA 11:6)

18(7); 25(1)   PHASE I BOOK EXPLOITATION   SOV /3232

Kislik, Vladislav Afanas'yevich, Doctor of Technical Sciences, Pro-
fessor; Aleksandr Filippovich Troitskiy, Doctor of Technical
Sciences, Professor; Dmitriy Grigor'yevich Ivannikov, Doctor of
Technical Sciences, Professor; and Mikhail Grigor'yevich Makeyev,
Candidate of Technical Sciences, Docent.

Metallovedeniye i goryachaya obrabotka metallov (Physical Metallurgy
and Hot Working of Metals), Moscow, Transzheldorizdat, 1959.
392 p. 10,000 copies printed.

Ed. (Title page): V. A. Kislik, Doctor of Technical Sciences, Pro-
fessor; Eds. (Inside book): V. V. Danilevskiy, Candidate of
Technical Sciences, and Yu. S. Sarantsev, Engineer; Tech. Ed.:
P. A. Khitrov.

PURPOSE: This is a textbook for use in higher institutes of loco-
motive and railroad-car manufacture. It may also be used as a
reference book by technical personnel at plants, depots, and
track-maintenance shops connected with railroads.

Card 1/16

KISLIK, V.A., doktor tekhn. nauk; SAL'MAN, B.M., inzh.

Measuring the stresses in the rims of moving wheel pairs.
Zhel. dor. transp. 41 no.5:72-73 My '59.

(Car wheels)   (MIRA 12:7)

KISLIK, V.A.

PHASE I BOOK EXPLOITATION   SOV/5053

Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh. 3d, 1958.

Iznos i iznosostoykost'. Antifriktsionnye materialy (Wear and Wear Resistance. Antifriction Materials) Moscow, Izd-vo AN SSSR, 1960. 273 p. Errata slip inserted. 3,500 copies printed. (Series: Its: Trudy, v. 1)

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Resp. Ed.: K. M. Khrushchov, Professor) Eds. of Publishing House: M. Ya. Klebanov, and S. L. Orpik; Tech. Ed.: T. V. Polyakova.

PURPOSE: This collection of articles is intended for practicing engineers and research scientists.

COVERAGE: The collection, published by the Institut mashinovedeniya, AN SSSR (Institute of Science of Machines, Academy of Sciences USSR) contains papers presented at the III Vsesoyuznaya kon- ferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines) which was held April 9-15, 1958. Problems discussed were in 5 main areas: 1) Hydrodynamic Theory of Lubrication and Friction Bearings (Chairman: Ye. M. Gut'yar, Doctor of Technical Sciences, and A. K. D'yachkov, Doctor of Technical Sciences); 2) Lubrication and Lubricant Materials (Chairman: O. V. Vinogradov, Doctor of Chemical Sciences); 3) Dry and Boundary Friction (Chairman: B. V. Deryagin, Corresponding Member of the Academy of Sciences USSR, and I. V. Kragel'skiy, Doctor of Technical Sciences); 4) Wear and Wear Resistance (Chairman: M. M. Khrushchov, Doctor of Technical Sciences); and 5) Friction and Antifric- tion Materials (Chairman: I. V. Kragel'skiy, Doctor of Tech- nical Sciences). Chairman of the General Assembly (on the first and last day of the conference) was Academician A. A. Blagonravov. L. Yu. Pruhanskiy, Candidate of Technical Sciences, was sci- entific secretary. The transactions of the conference were published in 3 volumes, of which the present volume is the first. This volume contains articles concerning the wear and wear resistance of antifriction materials. Among the topics covered are: modern developments in the theory and experi- mental science of wear resistance of materials, specific data on the wear resistance of various combinations of materials, methods for increasing the wear resistance of certain materials, the effects of friction and wear on the structure of materials, the mechanism of the seizing of metals, the effect of various types of lubricating materials on seizing, abrasive wear of a wide variety of materials and components under many different conditions, modern developments in antifriction materials, and the effects of finish machining on wear resistance. Many per- sonalities are mentioned in the text. References accompany most articles.

Polchenko, P. V.   Influence of the Direction of Machin- ing Marks on the Character and Magnitude of the Wear of Friction Pairs During the Period of Running-In (Sb. "Zachepiro poverkhnosti detaley mashin", No. 4, Izd. AN SSSR, 1959)   270

Chesnoy, A. L.   Effect of the Finishing Treatment of Journal Bearings (Sb. "Treniye i iznos v mashinakh", VyP. 15, Izd. AN SSSR)   270

Zamorisev, O. M. (deceased), A. I. Turnovskiy, N. S. Vakhovskiy, and O. A. Nyabchikova.   Formation of Martensite Elements on the Surface of Drawn Profiled Steel Wire Used in Cables ("Vestn. mashinostr.", No. 7, 1959)   270

Kislik, V. A.   Wear and Damage to the Rolling Surface of Locomotive Car Wheels ("Vestn. mashinostr.", No. 7, 1959)   271

Card 11/13

KISLIK, V.A., prof., doktor tekhn.nauk (Rostov-na-Donu); GUGEL', S.M., inzh. (Rostov-na-Donu)

Use of nitriding for reconditioning fuel system components.
Elek.i tepl.tiaga. 4 no.6:26-28 Je '60.   (MIRA 13:8)
        (Diesel engines--Fuel systems)
        (Fuel pumps--Maintenance and repair)

KISLIK, V.A., doktor tekhn.nauk, prof.; TKACHEV, V.N., kand.tekhn.nauk

"Investigating the wear of metals" by M.M.Khrushchov, M.A.Babichev.
Reviewed by V.A.Kislik, V.N.Tkachev. Vest.mash. 41 no.8:87-88
Ag '61.   (MIRA 14:8)
(Mechanical wear)
(Khrushchov, M.M.) (Babichev, M.A.)

D'YACHKOV, A.K., doktor tekhn.nauk,prof.; ZHIROMIRSKIY, V.K., doktor tekhn. nauk; KISLIK, V.A., doktor tekhn.nauk, prof.; KRASNICHENKO, L.V., doktor tekhn. nauk, prof.; KOVALEV, M.P., kand. tekhn. nauk; PARGIN, D.P., kand. tekhn. nauk; PLUTALOVA, L.A., kand.tekhn.nauk; LETKOV, N.L., inzh.; PASHCHENKO, M.P., inzh.; PETRUSEVICH, A.I., doktor tekhn. nauk, prof.; MARENSKAYA, I.Ya., red. izd-va; UVAROV, A.F., tekhn. red.

[International conference on lubrication and wear of machinery; proceedings] Mezhdunarodnaia konferentsiia po smazke i iznosu mashin proceedings. Moskva, Mashgiz, 1962. 658 p.   (MIRA 15:5)

1. Conference on Lubrication and Wear, London, 1957.
     (Lubrication and lubricants—Congresses)
       (Mechanical wear—Congresses)

KISLIK, V.A.

Nature of the white layer on friction surfaces. Tren.i izn.mash.
no.15:178-197 '62.
(Metallography)   (MIRA 15:4)

KISLIK, V.A.; SHLYKOV, V.I.

Machine for testing specimens for wear with a reciprocating motion.
Izv. vys. ucheb. zav.; neft' i gaz 4 no.12:109-112 '61.

(MIRA 16:12)

1. Rostovskiy institut inzhenerov zheleznodorozhnogo transporta
i Groznenskiy neftyanoy institut.

KISLIK, V.A., doktor tekhn.nauk, prof.; GUGEL', S.M., aspirant

Lengthening the service life of the fuel system parts of diesel locomotive engines. [Sbor.trud.] RIIZHT no.31:28-214 '61.
(MIRA 16:12)

KISLIK, V.A., doktor tekhn.nauk, prof.; STUDENOK, Yu.A., kand.fiziko-matem.nauk, dotsent; POLYAKOV, A.N., inzh.

Increasing the wear resistance of the pistons of a D-50 diesel loco-
motive engine in the area of the upper grooves. [Sbor.trud.] RIIZhT
no.31:226-297 '61.
(MIRA 16:12)

KISLIK, V.A.; KARMAZIN, A.I.

Method of evaluating the contact strength of rail steel. Zav.lab. 30
no.12:1497-1499 '64.
(MIRA 18:1)

1. Rostovskiy-na-Donu institut inzhenerov zheleznodorozhnogo transporta.

KISLIK, V.A., doktor tekhn. nauk (Rostov-na-Donu); KARMAZIN, A.I., kand.
tekhn. nauk (Rostov-na-Donu)

Prevent contact defects. Put' i put. khoz. 9 no.3:7-8 '65.
(MIRA 18:6)

KISLIK, V.A.; KARMAZIN, A.I.

Reproduction of fatigue cross fractures in rails under
laboratory conditions. Zav.lab. 31 no.3:354-356 '65.
(MIRA 18:12)

1. Rostovskiy-na-Donu institut inzhenerov zheleznodorozhnogo
transporta.

KISLIK, V.Z.

Some characteristics of local zones of substitution of the second
potassium horizon of the Starobin deposit of potassium salts.
Dokl. AN BSSR 7 no.2:115-119 F '63.   (MIRA 16:7)

1. Institut geologicheskikh nauk AN BSSR. Predstavleno akademikom
AN BSSR K.I. Lukashevym.
                (Starobin--Potassium salts)

FOMINA, V.D.; LUPINOVICH, Yu.I.; KISLIK, V.Z.

Jointing of potassium horizons in the Starobin deposit. Dokl. AN BSSR
9 no.7:463-467 Jl '65.   (MIRA 18:9)

1. Institut geologicheskikh nauk Gosudarstvennogo geologicheskogo
komiteta SSSR i Pervyy Soligorskiy kaliynyy kombinat.

KISLIK, V.Z.; LUPINOVICH, Yu.I.

 Structural characteristics of the margi̇ral zone of the 2d
 potassium horizon of the Starobin deposit. Dokl. AN BSSR 8
 no.11:740-744 N '64.   (MIRA 18:3)

 1. Institut geologicheskikh nauk Gosudarstvennogo geologicheskogo
 komiteta SSSR.

LUPINOVICH, Yu.I.; KISLIK, V.Z.

Ripple marks in the rock salt of the second potassium horizon
of the Starobin deposit. Lit. i pol. iskop. no.2:174-176
Mr-Ap '65.
(MIRA 18:6)

1. Institut geologicheskikh nauk Gosudarstvennogo geologicheskogo
komiteta SSSR.

KISLIAKOV, Sava, inzh.

Dynamic stability of the cylindrical films strengthened with circular ribs. Godishnik Inzh stroit inst 13 no.1:73-90 '61.

Color centers in alkali-halide mixed crystals. A. N. Kislina. *Trudy Sibir. Fiz.-Tekh. Inst., Tomsk. Univ.* No. 35, 262-7 (1956).— F centers in mixed KCl-KBr, NaBr-KBr, and NaCl-NaBr were induced by (a) x-ray irradiation and (b) by Artayyunov's method (cathode electrons at high temp. followed by rapid cooling to room temp.). The latter method was difficult. Cracks developed so that exptl. sections could not always be cut out of the grown crystal. In NaBr-KBr and NaCl-NaBr F centers could not always be induced by either method. This was ascribed to a white enamel formed on the surface of the crystals. The single F band of mixed crystals in the KCl-KBr system was not like that of KCl or KBr crystals. It shifted towards that of KBr as the concn. of the latter increased. The absorption spectra of crystals treated by b shifted by 20 mμ to the right of that of crystals treated by a. This was ascribed to the presence of colloidal dispersions in the former because cooling was not sufficiently rapid. The relation between the crystal lattice consts. and the concn. of mixed crystals in systems KCl-KBr and KBr-NaBr did not follow Vegrad's law, but the relation $\nu_{max} \cdot d^2 =$ const. was valid. ν is the vibration frequency.   J. B.

AUTHOR: Kislina, A. N.

TITLE: Connection Between the Electric Strength of Solid-Solution Single Crystals
of Alkali Halides and Some of Their Physico-Chemical Characteristics
(Svyaz' elektricheskoy prochnosti monokristallov tverdykh rastvorov
shchelochno-galoidnykh soley s nekotorymi fiziko-khimicheskimi svoystvami)

PERIODICAL: Izv. Tomskogo politekhn. in-ta, 1956, Vol 91, pp 125-135

ABSTRACT: The structure of single crystals of solid solutions of alkali halides
was studied by x-rays, and measurements made of lattice constant, electric
strength, and microhardness. An attempt is made to discover associations
among the above characteristics and also connection between the electric
strength of solid solutions and their melting temperature, formation heat, and
surface energy. Bibliography: 16 items. Tomskiy politekhnich. in-t (Tomsk
Polytechnic Institute), Tomsk.

A.A.V.

Card 1/1

AUTHOR: Kislina, A. N.

TITLE: Aging Changes in Electric Strength, Microhardness, Flowing Pressure, and Formation Heat of Solid Solutions of Some Alkali Halides (Izmeneniye elektricheskoy prochnosti, mikrotverdosti, davleniya istecheniya i teploty obrazovaniya tverdykh rastvorov nekotorykh shchelochno-galoidnykh soley pri ikh starenii)

PERIODICAL: Izv. Tomskogo politekhn. in-ta, 1956, Vol 91, pp 137-144

ABSTRACT: An increase in electric strength and microhardness has been dis-
covered in single crystals of KCl-KBr and KBr-NaBr solid solutions in the
course of natural aging. The electric strength of fresh single crystals of
KCl-KBr can be expressed by a curve that has a minimum, that of crystals
shelved for 3 months, by a curve that has a maximum; for equimolar hard
solutions, the electric strength of aged samples is higher than that of fresh
samples. Samples shelved for 3 months show maximum values of micro-

Card 1/2

SOV/112-58-2-1852

Aging Changes in Electric Strength, Microhardness, Flowing Pressure, and . . . . hardness. Calcining of mixed crystals KCl-KBr at 300° and 500°C results in an increase in their electric strength. Bibliography: 12 items. Tomskiy politekhnich. in-t (Tomsk Polytechnic Institute), Tomsk.

A.A.Y.

Card 2/2

KISLINA, A. N. Cand Tech Sci -- (diss) "A Study of Some Physical-Chemical Properties of the Solid Solutions of Alkali-Halogen Salts and Their Changes During Aging." Tomsk, 1957. 7 pp 20 cm. (Min of Higher Education USSR, Tomsk Order of Labor Red Banner Polytechnic Inst im S. M. Kirow), 100 copies (KL, 17- 57, 97)

- 35 -

KISLINA, A. N., (TPI)

"The simple relations between the physical and chemical properties of the
monocrystals of alkali-halide salts and their electrical strength are not
always established in the case of solid solutions"

Report presented at a Conference on Solid Dielectrics and Semiconductors,
Tomsk Polytechnical Inst., 3-8 Feb. 58.
(Elektrichestvo, '58, No. 7, 83-86)

KISLINA, A.N.

Changes in the electric strength and microhardness of single crystals in KCl - KBr solid solutions in the process of natural aging. Izv. TPI 95:126-133 '58.   (MIRA 14:9)

1. Predstavleno prof., doktorom A.A.Vorob'yevym.
                    (Potassium halides)

KISLINA, A.N.

X-ray diffraction study of single crystals in solid solutions of alkali metal halides. Izv. TPI 95:134-138 '58.   (MIRA 14:9)
(Alkali metal halides) (X-ray crystallography)

KISLINA, A.N.

Effect of annealing of crystals of solid solutions of potassium chloride - potassium bromide on the heat of formation, electric strength and microhardness. Izv. TPI 95:139-145 '58. (MIRA 14:9)
(Potassium halides)

KISLINA, A.N.

Refraction index of single crystals of solid solutions of alkali
metal halides and its variation with aging of the solutions. Izv.
TPI 95:234-241 '58.   (MIRA 14:9)

1. Predstavleno professorom doktorom A.A.Vorob'yevym.
    (Solutions, Solid) (Alkali metal halides)

VOROB'YEV, A.A.; KISLINA, A.N.

Electric strength of single crystals in solid solutions of alkali metal halides. Izv. TPI 95:343-346 '58.   (MIRA 14:9)
(Solutions, Solid) (Alkali metal halides--Electric properties)

66196

SOV/143-59-7-6/20

24(3) 24.7500

AUTHORS: Vorob'yev, A.A., Doctor of Physical and Mathematical Sciences, Professor, and Kislina, A.N., Candidate of Technical Sciences

TITLE: The Electric Strength and Microhardness of Solid Solution Crystals of Systems KJ-KCl and KCl-NaCl, Disintegrating During the Growing Process from the Melt

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1959, Nr 7, pp 41-42 (USSR)

ABSTRACT: Studying the properties of ionic solid solutions and obtaining stable systems is of great importance for the theory and practical application of dielectrics. Academician N.S. Kurnakov showed that ionic solid solutions are not stable and disintegrate after some time. For checking the influence of the disintegration of solid solutions on their physical and chemical properties, systems KJ-KCl and KCl-NaCl were investigated. Measurements of the electric strength, the microhardness and structural X-ray analyses were performed. Solid solutions of systems KJ-KCl and KCl-NaCl are characterized by a low thermodynamic stability. The

Card 1/2

66196

SOV/143-59-7-6/20

The Electric Strength and Microhardness of Solid Solution Crystals of Systems
KJ-KCl and KCl-NaCl, Disintegrating During the Growing Process from the Melt

                   microhardness was measured by a PMT-3 device. The dependence of
                   the microhardness of KJ-KCl and KCl-NaCl crystals is of a com-
                   plicated nature, as shown in fig.2. The dependence of the elec-
                   tric strength of KJ-KCl crystals on their chemical composition
                   is shown in fig.3. The authors established that the disintegra-
                   tion of solid solutions leads to changes of the electric strength,
                   the microhardness, the loss angle $\tan\delta$, and their properties
                   approach those of mechanical mixtures, as indicated by Academi-
                   cian N.S. Kurnakov for some other properties. This paper was
                   presented at the Kafedra tekhniki vysokikh napryazheniy (Depart-
Card 2/2   ment of High Voltage Engineering). There are 3 graphs and 3
                   Soviet references.

ASSOCIATION: Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy in-
                   stitut imeni S.M. Kirova (Tomsk - Order of the Red Labor Banner
                   - Polytechnic Institute imeni S.M. Kirov)

SUBMITTED: January 20, 1959

66170

5(0), 24(3) 24.7500

AUTHORS: Vorob'yev, A.A., Doctor of Physical and Mathematical Sciences, Professor,
              Ivankina, M.S., Kislina, A.N. Candidate of Technical Sciences, and
              Savintsev, P.A., Candidate of Physical and Mathematical Sciences,
              Docent

TITLE: The Physical and Chemical Properties of Insulating Crystals

ABSTRACT: During the years of Soviet rule, the scientists of Tomsk perform-
              ed considerable research in studying the structures mechanical,
              thermal and electrical properties of ion crystals and alloys. The
              energy of the crystal lattice was selected as the magnitude which
              determines the structure and the interaction of particles in a
              crystal lattice, A.A. Vorob'yev (Ref.1). The values of the crystal
              lattice energy are unknown for crystals with admixtures. P.A. Sa-
              vintsev (Ref.2) showed that the comparison of properties of crys-
              tals and alloys with identical type of the crystal lattice and
Card 1/4   identical chemical bonds between the particles may be performed

66170

SOV/143-59-9-7/22

The Physical and Chemical Properties of Insulating Crystals

by the molecular concentration α : $\alpha = \frac{D}{M} \cdot 10^3$ where D = crystal

density; M = molecular weight. According to the Born formula, α

is connected with the crystal lattice energy $U = C\sqrt{\frac{D}{M}}$ where C

is a constant. According to Born's formula, the energy of alkali
halides is proportional to the ratio D:M. The authors compare the
properties of crystals and alloys with the lattice energy and the
molecule concentration. The Tomsk scientists devoted great atten-
tion to studies of the mechanical properties of ion crystals. V.D.
Kuznetsov (Ref.3) analyzed methods of determining the hardness of
brittle bodies and developed a number of new methods: drilling,
damped oscillations, mutual grinding. V.N. Kashcheyev (Ref.4) and
L.A. Kudryavtseva (Refs.5,6) showed that the hardness in the me-
thod of mutual grinding does not depend on the type of the abra-
sive powder used for grinding, only when the mechanical strength
of the powder is several times greater than the strength of crys-
tals to be ground. In this case the hardness ratio coincides with
the ratios of surface energies calculated by Born and Shtern.

Card 2/4

66170

SOV/143-59-9-7/22

The Physical and Chemical Properties of Insulating Crystals

P.A. Savintsev, V.Ya. Zlenko and A.F. Naumov (Ref.7) determined the hardness in drilling of alkali halide monocrystals with ad- mixtures. They found that admixtures of alkali halide salts reduce the hardness of crystals. P.A. Savintsev and V.V. Kutsepalenko (Refs.8,10) stated that the greatest hardness value is found in the area of equal component concentrations, which corresponds to the smallest value of α. M.S. Ivankina (Refs.12,13,14) investi- gated the structure of the crystal lattice of solid solutions of alkali halide salts and a number of their thermal properties de- pending upon the composition in connection with the energy of interaction of components. A.A. Vorob'yev, Ye.K. Zavadovskaya and A.M. Trubitsin (Ref.16) and K.A. Vodop'yanov and G.I. Galibina (Ref.23) determined the electrical properties of ion alloys of different stability degrees at room temperature. A.N. Kislina (Refs.19,20,21) investigated the electric strenght of KJ-KBr, KJ-NaJ and other properties of alkali halides. The authors present the following conclusions: The physical and chemical properties of ion crystals and their solid solutions are determined by the crys-

Card 3/4

66170

SOV/143-59-9-7/22

The Physical and Chemical Properties of Insulating Cyrstals

tal lattice energies. The formation of alkali halide solid solutions KCl-NaCl, NaCl-NaBr, NaCl-NaJ, are accompanied by a destruction of the crystal lattice, absorption of heat, increased linear expansion coefficient, increased electric conductivity, a reduction of the density and molecule concentration, and a hardness reduction in mutual grinding and drilling. The aging of solid solutions will result. There are 2 sets of graphs and 24 Soviet references.

ASSOCIATION: Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni S.M. Kirova (Tomsk - Order of the Red Labor Banner - Polytechnic Institute imeni S.M. Kirov)

SUBMITTED: April 21, 1959

Card 4/4

KISLINA, N.I.

      Device facilitating the removal of gears, flywheels, and other
parts from loom beams. Obm.tekh.opyt. [MLP] no.15:23-24 '56.
             (Looms--Attachments)   (MIRA 11:11)

KISLINA, N.I.

Changing the way of fixing temples on looms. Obm.tekh.opyt. [MLP]
no.15:28-29 '56.   (MIRA 11:11)
                        (Looms)

NIKOL'SKAYA, I.I.; KISLINA, O.S.; SHALINA, N.M.; TIKHONENKO, T.I.

Substrate specificity of phosphodiesterase of the venom of
Vipera lebetina. Biokhimiia 30 no.6:1236-1244 N-D '65.
                                                  (MIRA 19:1)

1. Laboratoriya nukleinovykh kislot Instituta virusologii
imeni D.I.Ivanovskogo AMN SSSR i Kafedra virusologii Gosu-
darstvennogo universiteta imeni M.V.Lomonosova, Moskva.
Submitted March 27, 1965.

NIKOL'SKAYA, I.I.; KISLINA, O.S.; TIKHONENKO, T.I.

Properties of 5'-nucleotidase of the Vipera lebetina venom.
Biokhimiia 30 no.1:107-112 Ja-F '65.   (MIRA 18:6)

1. Laboratoriya nukleinovykh kislot Instituta virusologii imeni
Ivanovskogo AMN SSSR i kafedra virusologii Gosudarstvennogo
universiteta imeni Lomonosova, Moskva.

NIKOL'SKAYA, I.I.; KISLINA, O.S.; TIKHONEKON, T.I.

Isolation of 5'-nucleotidase of viper venom from interfering
enzymes. Dokl. AN SSSR 157 no. 2:475-477 Jl '64. (MIRA 17:7)

1. Institut virusologii imeni D.I.Ivanovkogo AMN SSSR i
Moskovskiy gosudarstvennyy universitet. meni Lomonosova.